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U. S. SMALL BUSINESS ADMINISTRATION

SMALL BUSINESS INNOVATION RESEARCH PROGRAM

AND

SMALL BUSINESS TECHNOLOGY TRANSFER PROGRAM

BEFORE THE
HOUSE COMMITTEE ON SCIENCE

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Thank you for inviting me to discuss the Small Business Innovation Program and the Small Business Technology Transfer Program.

The Small Business Innovation Development Act of 1982, Public Law 97-219 (as amended) directs the U.S. Small Business Administration (SBA) to establish policy for monitoring, evaluating, and reporting on accomplishments of the Small Business Innovation Research (SBIR) program. Public Law 106-554 reauthorized the program through September 30, 2008.

The SBIR is a highly competitive program that encourages small business to explore their technological potential and provides the incentive to profit from its commercialization. Small businesses need only to certify that they meet the following eligibility criteria to participate in the SBIR and Small Business Technology (STTR) programs:

- (a) The concern must be organized for profit, although it can take the form of a sole proprietorship, partnership, limited liability company, corporation, association, trust, cooperative or joint venture;
- (b) The concern must be 51% owned and controlled by one or more U.S. citizens or permanent resident aliens and must have a significant place of business in and operate primarily within the U.S.;
- (c) Principal researcher must be employed more than 50% by the small business; and
- (d) The concern's size limit must be 500 employees or fewer.

In 1992, the Congress enacted Public Law 102-564, which authorized the STTR program, a companion program to SBIR. In 2002, Public Law 107-50 reauthorized the STTR program through FY 2009. Even though the SBIR program was a success, Congress felt that more could be done to link small businesses with creative ideas and technology at universities, non-profit scientific and educational institutions, and Federal laboratories. This collaboration would result in a better commercialization rate for federally sponsored research conducted at non-profit institutions. Both programs share the same philosophy – to use federally funded research and development requirements to promote technological innovation by small businesses and strengthen the American economy.

Small businesses that have been successful in the SBIR and STTR programs have been those that have submitted proposals demonstrating both a high level of technical merit and the ability to use available resources such as subcontractors and laboratories to assist in developing and delivering the required research. Many of the unsuccessful proposals submitted to the programs have lacked technical merit, did not address the research effort fully, attempted to perform the research effort on their own without having the necessary internal resources to accomplish this effort, and/or did not include all of the necessary forms, certifications and or other documents required by the requesting procuring agency. I am certain that testimony of my colleague at the National Institutes of Health can provide additional information on this issue from their experience.

Following submission of proposals, agencies make SBIR and STTR awards based on small business qualification, degree of innovation, technical merit, and future market potential. Small businesses that receive awards then begin a three-phase program.

Phase I, which essentially is the start-up phase, involves a solicitation of contract proposals or grant applications to conduct feasibility-related experimental or theoretical R/R&D related to describe agency requirements. Awards up to \$100,000 for approximately 6-months duration support exploration of the technical merit or feasibility of an idea or technology.

Phase II awards of up to \$750,000, for up to 2 years, expand Phase I results. The Phase II award decision process requires, among other things, substantive consideration of a proposal's commercial potential.

Phase III refers to work that derives from, extends, or logically concludes effort(s) performed under prior SBIR/STTR funding agreements. This comprises the period during which Phase II innovation moves from the laboratory into the marketplace. No SBIR/STTR funds support this phase.

SBA's role in the SBIR and STTR programs is to:

- Develop, coordinate, issue and update the policy directive.
- Develop and administer information and outreach programs for the SBIR and STTR programs.

- Develop and maintain a source and information file of interested small businesses.
- Survey, monitor and report on each agency's SBIR and STTR programs.
- Report annually to Congress on each agency's SBIR and STTR program.

The SBIR and STTR programs continue to demonstrate that, with program support from the Federal Government, small high-tech firms can convert basic ideas and research into commercial products. This partnership between the Government and private sector has proved to be remarkably effective in some areas.

Over a 20-year period, Federal agencies participating in the SBIR program have awarded more than 69,000 awards worth over \$13.3 billion to thousands of small high-tech companies. Minority/disadvantaged firms have received over 8,000 awards totaling \$2.9 billion. Awards have been made to firms in all 50 states, Puerto Rico and the District of Columbia.

I should note that in this past year, as part of the overall government program review process initiated by the Office of Management and Budget, the SBIR/STTR programs of the Departments of Defense and Commerce were reviewed with the Program Assessment Rate Tool (PART). Those reviews and corresponding recommendations will be published in conjunction with the release of the FY 2005 President's Budget.

Like SBIR, the STTR program is structured in three phases. Phase I in the STTR program is funded at up to \$100,000 for a one-year period. Phase II funds Phase I projects that have the most potential for further development at up to \$750,000 for up to an additional 2 years. Under Phase III, no Federal STTR funding is provided to bring the innovation to the commercial marketplace.

STTR goes beyond the SBIR in that it involves cooperative research and development performed jointly by a small business and a research institution. Although the project is a joint effort, the small business exercises overall management, control, and responsibility for the project.

Since inception of the program, over 12,000 awards have been made totaling \$549 million. Minority/disadvantaged firms have received 312 awards totaling \$63.5 million.

The SBA, through its Federal and State Technology Partnership (FAST) program, requires that applicants to the program address in their proposal submissions for funding how they will provide outreach and technical assistance to minority and women-owned firms within their respective states. This criterion is weighted and evaluated by a peer review panel that selects the grantees for the FAST program. The SBA also has been the lead agency for the past 5 years in an initiative to provide outreach and technical assistance to the Historically Black Colleges and Universities (HBCUs), Small Disadvantaged, Minority and Women-owned businesses. Through a co-sponsorship between the Environmental Protection Agency (EPA), Defense Advanced Projects

Agency (DARPA) and the SBA, representatives at various HBCUs were engaged by the co-sponsoring Federal program managers to train them in the program administration and technical components of the SBIR and STTR programs. This has enabled the HBCUs to become mentors within their given states or regions and assist in increasing the participation level of the underrepresented groups. This initiative has proven to be very successful. The EPA and DARPA both have acknowledged increases in their programs by small disadvantaged, minority and women-owned businesses. Other participating Federal agencies have also witnessed an increase in the number of proposals received for their agencies SBIR and STTR programs.

Some of the successful companies in Texas who have participated in the SBIR and/or the STTR programs are:

- (1) Knowledge Based Systems, Inc, College Station, Texas, commercialized a knowledge based software tool that facilitates optimization model development;
- (2) Polatomic, Inc, Richardson, Texas, developed a magnetometer developed under an SBIR award to fill the U.S. Navy's need for a high performance sensor for detection and localization of magnetic targets of interest for Anti-Submarine Warfare; and
- 3) OmniSite BioDiagnostics, Inc, based in Austin, Texas, has developed technologies extending into human diagnostic, therapeutic, home care, and pharmaceutical sectors, in addition to homeland defense, biowarfare, veterinary, agricultural, and environmental markets.

Additional stories on the awards that have impacted businesses in Texas and elsewhere can be found in the SBA's SBIR and STTR Annual Reports to Congress, and also on the SBA's SBIR website at www.sba.gov/sbir listed under the information for the Federal and State Technology Partnership Program (FAST). The SBA will also forward copies of the most recent SBIR and STTR Annual Reports to the members of this hearing.

In Fiscal Year 2002, the most recent year for which data is available, the state of Texas ranks ninth among all states, the District of Columbia, and Puerto Rico in terms of total dollars received from SBIR program funding. That year, 220 SBIR awards were made to small, high-technology businesses in the state of Texas totaling \$53,422,476. Eleven awards totaling \$2,752,756 were made to businesses that certified that they were minority-owned. Twenty-three awards totaling \$4,250,893 were made to businesses that certified that they were woman-owned. The 220 total SBIR awards made to firms in Texas represent awards to 89 unique businesses.

In Fiscal Year 2002, the state of Texas ranks fifth among all states, the District of Columbia, and Puerto Rico in terms of total dollars received from STTR program funding. That year, 21 STTR awards were made to small, high-technology businesses in the state of Texas totaling \$4,353,693. Three awards totaling \$699,333 were made to businesses that certified that they were minority-owned. One award totaling \$483,781 was made to a firm that certified that it was woman-owned. The 21 total STTR awards made to firms in Texas represent awards to 20 unique businesses.

Thank you for the opportunity to provide you this written testimony.